Table 2. Computed features in this study

ID	Formula	Description
1st family		
1	$f_1 = \frac{\text{mean(Env)}}{\max\text{(Env)}}$	Ratio of the mean over the max of the envelope signal
2	$f_2 = \frac{\text{median(Env)}}{\max\text{(Env)}}$	Ratio of the median over the max of the envelope signal
3	$f_3 = \max(\text{Env})$	Maximum envelope amplitude
4	$f_4 = \arg\max(\text{Env})$	Time of the maximum envelope amplitude
5	$f_5 = (\frac{\mu_{\text{Raw}}}{\sigma_{\text{Raw}}})^4$	Kurtosis of the raw signal
6	$f_6 = (\frac{\mu_{\text{Env}}}{\sigma_{\text{Env}}})^4$	Kurtosis of the envelope
7	$f_7 = (\frac{\mu_{\text{Raw}}}{\sigma_{\text{Raw}}})^3$	Skewness of the raw signal
8	$f_8 = (\frac{\mu_{\text{Env}}}{\sigma_{\text{Env}}})^3$	Skewness of the envelope
9	$f_9 = \int_1^{33} C(\tau)d\tau$	Energy in the first third of the autocorrelation function
10	$f_{10} = \int_{\frac{T}{3}}^{T} C(\tau)d\tau$	Energy in the remaining part of the autocorrelation function
11	$f_{11} = \frac{f_9}{f_{10}}$	Ratio of the above two
2nd family		
12	$f_{12} = \max(\text{BP2})$	Maximum amplitude of 2-8 Hz
13	$f_{13} = \textbf{length}(\textbf{findpeaks}(\text{Env}_{\text{BP2}}))$	Number of peaks in the curve showing an envelope of 2-8 Hz
14	$f_{14} = \int_0^T \text{BP1}(t)dt$	Energy of the signal filtered in 0.1-1 Hz
15	$f_{15} = \int_0^T \text{BP2}(t)dt$	Energy of the signal filtered in 2-8 Hz

16	$f_{16} = \int_0^T \mathrm{BP3(t)dt}$	Energy of the signal filtered in 5-20 Hz
17	$f_{17} = (\frac{\mu_{BP1}}{\sigma_{BP1}})^4$	Kurtosis of the signal in 0.1-1 Hz
18	$f_{18} = (\frac{\mu_{BP2}}{\sigma_{BP2}})^4$	Kurtosis of the signal in 2-8 Hz
19	$f_{19} = (\frac{\mu_{BP3}}{\sigma_{BP3}})^4$	Kurtosis of the signal in 5-20 Hz
3rd family		
20	$f_{20} = \mathrm{Kurtosis}(\max_{t=0\ldots T}[\mathrm{SPEC}(t,f)])$	Kurtosis of the maximum of all DFT as a function of time
21	$f_{21} = \mathrm{mean}(\frac{\max_{t=0\ldots T}[\mathrm{SPEC}(t,f)]}{\mathrm{mean}_{t=0\ldots T}[\mathrm{SPEC}(t,f)]})$	Mean ratio between the maximum and the mean of all DFT
22	$f_{22} = \mathrm{mean}(\frac{\max_{t=0\ldots T}[\mathrm{SPEC}(t,f)]}{\mathrm{median}_{t=0\ldots T}[\mathrm{SPEC}(t,f)]})$	Mean ratio between the maximum and the median of all DFT
23	$f_{23} = \mathrm{length}(\mathrm{findpeaks}(\max_{t=0\ldots T}[\mathrm{SPEC}(t,f)]))$	Number of peaks in the curve showing the temporal evolution of the DFT max
24	$f_{24} = \mathrm{length}(\mathrm{findpeaks}(\mathrm{mean}_{t=0\ldots T}[\mathrm{SPEC}(t,f)]))$	Number of peaks in the curve showing the temporal evolution of the DFT mean
25	$f_{25} = \mathrm{length}(\mathrm{findpeaks}(\mathrm{median}_{t=0\ldots T}[\mathrm{SPEC}(t,f)]))$	Number of peaks in the curve showing the temporal evolution of the DFT median
26	$f_{26} = \frac{f_{23}}{f_{24}}$	Ratio between #23 and #24
27	$f_{27} = \frac{f_{23}}{f_{25}}$	Ratio between #23 and #25
28	$f_{28} = \frac{\mathrm{sum}([\mathrm{STFT}(t,f)])_{2\leq f\leq 8}}{\mathrm{sum}([\mathrm{STFT}(t,f)])_{5\leq f\leq 20}}$	Ratio between the sum of energy in 2-8 Hz and the sum of energy in 5-20 Hz
29	$f_{29} = \frac{\mathrm{sum}([\mathrm{STFT}(t,f)])_{5\leq f\leq 20}}{\mathrm{sum}([\mathrm{STFT}(t,f)])_{5< f\leq 50}}$	Ratio between the sum of energy in 5-20 Hz and higher than 5 Hz